

LESSON 12

FRANCIS CABOT LOWELL AND THE NEW ENGLAND TEXTILE INDUSTRY

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LESSON DESCRIPTION

The teacher presents information about the characteristics of entrepreneurs. The students read a passage about Francis Cabot Lowell and the New England textile industry and identify the entrepreneurial activities exemplified by Lowell's founding of the first integrated textile mill in the United States. Then, on the basis of the Lowell reading and two first-hand narrative accounts, the students consider the motivation of the young women who were employed in Lowell's textile mills.

MYSTERY

Early in the nineteenth century, young women employed in the New England textile industry worked long hours in challenging factory conditions for low pay. Despite the hard work and low pay, however, many young women sought jobs in the mills. Why?

ECONOMIC HISTORY

England tried to protect its leadership in the important textile industry by forbidding people to remove plans for textile factories and machinery from the country; it also tried to prevent skilled textile workers from leaving. But it proved to be impossible to keep these ideas and people contained in England. Spinning machinery and later the power loom were fairly easy to reproduce. Working from memory after he moved from England to the United States, Samuel Slater was able to draw plans for spinning machinery much like the machinery developed by Richard Arkwright in England. Francis Cabot Lowell smuggled sketches out of Great Britain and used the sketches as he founded a textile factory in Waltham, Massachusetts. Cotton textiles became the first major manufacturing industry to develop in the United States.

The New England textile industry received a great boost in 1807 when President Thomas Jefferson, to avoid involving the nation in the

long-running conflict between France and Great Britain, declared an embargo forbidding all foreign trade. American businessmen quickly began to manufacture cotton textiles to replace British imports. At the end of the War of 1812, when British cloth became available again, most of these firms were driven out of business because their costs were higher than those of British manufacturers. But the mills established by Francis Cabot Lowell were able to compete with British mills on the basis of cost and still make a profit. Other American firms also learned how to lower their costs, and soon textile mills were operating throughout New England and the Middle Atlantic states.

The New England mills employed many young women who had few alternative opportunities to earn money. When immigrants began to arrive in the United States in large numbers, beginning in the 1830s, they were willing to work for less money than the mill girls, and by the 1840s immigrant families held most of the jobs in the mills.

CONCEPTS

- Entrepreneur
- Incentives
- Investment
- Productive resources
- Profit
- Risk

OBJECTIVES

Students will:

1. Identify entrepreneurial behaviors in the career of Francis Cabot Lowell.
2. Identify incentives that motivated various participants in the production of cotton textiles in New England.

CONTENT STANDARDS**Economics**

- Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failure. (NCEE Content Standard 14)
- Investment in factories, machinery, new technology, and the health, education, and training of people can raise future standards of living. (NCEE Content Standard 15)

History

- How the industrial revolution, increasing immigration, the rapid expansion of slavery and the westward movement changed the lives of Americans and led toward regional tensions. (Era 4, Standard 2, National Standards for History)

TIME REQUIRED

45 Minutes

MATERIALS

- A transparency of Visual 12.1
- A copy of Activity 12.1 and 12.2 for each student

PROCEDURE

1. Tell the students that America's first important industry was the production of cotton textiles. (Production of cotton textiles had also played a lead role in Britain's industrial revolution.) The machinery involved in spinning cotton into thread and weaving cotton thread into cloth was relatively inexpensive and easy to reproduce (often without the permission of patent-holders). People liked cotton fabric, partly because the new technologies made it inexpensive. Also, cotton fabric could be washed without shrinking. This fact accounted for a breakthrough in public health. Even poor people could now afford to own more than one set of cotton clothes at a time, and they could wash
2. Tell the students that the British textile industry was started by entrepreneurs, and entrepreneurs also brought the textile industry to America. Display Visual 12.1. Tell the students that an entrepreneur is someone who starts a new business. Sometimes the entrepreneur is also an inventor, such as Eli Whitney, who developed the cotton gin, but many entrepreneurs are not inventors. Rather, many are people like Samuel Slater or Francis Cabot Lowell, who find opportunities to use the inventions of others in new ways.
3. In reviewing Visual 12.1, emphasize the important role of profit-seeking and risk in entrepreneurial ventures. As necessary, explain that profit is the money that a business owner or firm makes from the sale of a good or service, minus the costs of producing that good or service. Profits act as an incentive, encouraging people to start new businesses. But new businesses are not always profitable. In starting up a business, every entrepreneur takes a risk: He or she might lose money instead of making a profit. Financial capital is money raised to pay the costs of producing a good or service. Productive resources are natural resources ("gifts of nature," such as the land on which cotton can be grown), human resources (paid labor), and capital resources (human-made resources, such as tools, machinery and equipment, used to produce a good or service). An entrepreneur acquires these resources by paying for them. These payments thus become costs of production; the entrepreneur would not be able to use them to produce without such payments. A fourth cost of production in a market economy is profit, which is the payment needed to attract a business owner or business firm to make a specific product.
4. Divide the class into groups of three or four and distribute a copy of Activity 12.1 to each student. Tell the students to read the passage and, as a group, discuss it and

answer the question at the end. After giving the students time to read and discuss the passage, display Visual 12.1 again and ask individual students to give examples from the reading of each entrepreneurial characteristic. *(Possible answer: Lowell saw an opportunity to earn a profit when textile imports from Great Britain were cut off. He and his associates put their own money into the enterprise, risking the loss of their funds; they also sold shares. That the project was risky is proved by the number of textile firms that went out of business later, after Great Britain re-entered the market. Lowell's firm built a new factory, designed and built new machinery and hired a labor force.)*

than on the farm or small town that this young woman left to come to Lowell. The second young woman reports that she left home so that her widowed mother would not have to support her. The young woman could read very little and could not write at all when she came to the mill town, but in the new setting she learned to do both "without instruction." Perhaps she learned by taking advantage of the town library.)

5. Tell the students that the girls who were hired by the mill owners typically worked 12 or 13 hours a day, six days a week. The noise of the mills was deafening, and the pace of work was quick, with few breaks. Curfew at the girls' boardinghouses was 10:00 p.m., and girls could lose their jobs and their housing for not attending church or for "immorality." Ask the students if they would like to work as the mill girls did. Most probably would not. Yet the mill jobs were very popular with many young women of New England. Why would young women choose to work long and hard under challenging factory conditions for low pay? *(Entertain various answers and take note of them informally.)*

6. Tell the students that in order to investigate this question further they will examine two primary sources. Primary sources are original sources based on first-hand experience and investigation. In this case the sources are two first-hand accounts written by mill girls. In these accounts the girls discuss or at least hint at their reasons for wanting to work in the mills. Give each student a copy of Activity 12.2 and provide time for them to read the two passages. Then ask them to identify the girls' motivations or reasons for working in the mills. *(Possible answers: The first letter suggests the lure of romance: more young men were available in the industrial setting*

7. Ask about other incentives that apparently influenced the mill girls, according to Activity 12. 1. *(The mill girls earned more income than they would have earned if they had stayed home. Some of them earned enough to accumulate savings for their wedding dowries. They could take night classes and Sunday school classes — the latter were general education classes rather than religious classes. There also were opportunities to hear notable speakers.)*

8. Ask why it paid Francis Cabot Lowell, and other mill owners, to hire women rather than men to work in the mills. *(Young men had other opportunities and would not have worked at the mills except at much higher pay. Women had few such opportunities. It should be pointed out that highly skilled men did work at the mills in positions of responsibility and for higher wages than those earned by the young women.)*

9. Ask why the mill owners were able to pay higher wages to workers than the young women could have earned by making cloth at home. *(The factories, with their advanced machinery and efficient organization, were able to produce goods at a lower cost per unit, and their workers were thus more productive.)*

10. Tell the students that the mill-girl system lasted in New England until large numbers of immigrants began to arrive in the 1830s. Immigrants began to replace the mill girls because they were willing to work for less; most of the mill girls then chose to go back to their families, or to seek other work, rather than take reduced wages.

CLOSURE

Write the word *incentive* on the chalkboard. Ask the students what an incentive is. (*A reward or benefit, such as money, an advantage or a good feeling, that motivates people to do something.*) Tell the students that incentives are very important because they motivate people to take actions that can benefit others. What was the incentive that motivated Francis Cabot Lowell to open a textile factory? (*Profit.*) Who benefited? (*The people who bought his cloth. The young women who worked in his mills also benefited.*) Ask the students what incentive motivated Southern planters to grow cotton and send it to the textile factories of the North. (*Good prices.*) What were the incentives of the immigrants who came to America and replaced the mill girls? (*Lack of opportunity at home and, sometimes, the threat of actual starvation.*) What incentive did mill owners have to hire the immigrants? (*They could pay them lower wages; in the highly competitive textile industry, this allowed individual mill owners to lower their prices and outsell their rivals.*) Who won and who lost when the immigrants replaced the mill girls? (*The mill girls lost, but the immigrant workers, the mill owners and consumers who paid lower prices won.*)

ASSESSMENT**Multiple-Choice Questions**

- The establishment of the New England textile industry was motivated primarily by the incentive of profits that might be earned by
 - British textile manufacturers.
 - the mill workers and owners.
 - the mill workers.
 - the mill owners.**
- The New England textile mills in the 1820s were staffed primarily by women because
 - most of the men in New England were engaged in fighting the British.
 - women were better at spinning and weaving because they usually had smaller hands.

C. men had better alternative work opportunities than women did.

- men were not protected by the eight-hour workday as women were.

ESSAY QUESTIONS

- How does the career of Francis Cabot Lowell illustrate the attributes of an entrepreneur?

(Possible answer: Lowell identified an opportunity when Jefferson's embargo made British textiles unavailable in the United States. He found a skilled engineer — Paul Moody — to design and build a mill. He raised enough financial capital to start operations. He identified a source of labor — the mill girls — and bought ginned cotton from suppliers in the Southern United States.)

- What were the costs and benefits to a young woman of a job working in Francis Cabot Lowell's textile mills?

(Possible answer: Costs: long hours, strict supervision; benefits: higher wages than those available from alternative occupations, more social and educational opportunities.)

VISUAL 12.1

CHARACTERISTICS OF AN ENTREPRENEUR

- Identifies an opportunity
- Willing to risk financial loss in hope of making a profit
- Secures financial capital
- Brings together productive resources to produce a good or service

ACTIVITY 12.1

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The cotton textile industry began in Great Britain and was jealously guarded by the British government. It is usually difficult, however, to protect technological secrets, especially those that have a high value to others. Secrets can travel in many ways. For example, a young English mechanic named Samuel Slater emigrated to the United States, where he recreated from memory the major components of a spinning mill he had worked on in England. He then partnered with the firm of Almy & Brown in Rhode Island, and by 1793 the mill of Almy, Brown & Slater was supplying cotton thread to the housewives and professional weavers of New England.

Francis Cabot Lowell, a well-to-do Boston merchant, was also a smuggler of ideas. He saw an opportunity in the fact that British textile exports to America were cut off, first by President Thomas Jefferson's embargo (1807) against foreign trade and then by Great Britain's all-out struggle against France during the Napoleonic Wars (1800-1815). Lowell traveled to Manchester, England, to observe the textile mills there. Back home, he and several associates incorporated the Boston Manufacturing Company, the first industrial corporation in the United States. The new corporation sold shares of stock, mainly to the entrepreneurs themselves and to wealthy Boston friends, and raised \$400,000 to build and equip a textile factory.

One of the associates in the firm, Paul Moody, was a skilled mechanic. He took some sketches that Lowell had made in English mills he had visited and used the sketches to design the first successful integrated textile factory in the United States. It began operations in Waltham, Massachusetts, in 1815. (*Integrated* here means that, in the Waltham mill, all the processes necessary to turn ginned cotton into finished cotton cloth were contained under one roof.) The new factory began by producing a coarse white cotton cloth, which it could make as cheaply as the British mills could. When British exports began

to re-enter the United States after the defeat of Napoleon, many American textile manufacturers could not compete on the basis of price and went bankrupt, but the Boston Manufacturing Company continued to prosper.

Because labor was scarcer in New England than in Great Britain, Moody also designed machines that automated many processes performed by hand in British mills.

It was difficult to recruit young men to work in factories at the time. Most young men preferred the independence of farming. They either stayed on their family farms or bought frontier land from the government at low prices. To cope with this problem, Lowell found a new source of labor for the Waltham factory; he recruited single young women from the farms of New England. To reassure their parents about possible dangers to the girls' morals, he housed them in clean rooming houses under the strict supervision of respectable older women. The weekly wage for young women in Lowell's mills was \$2.50, of which \$1.25 was deducted to pay for room and board. This amounted to pay of less than four cents per hour, which sounds abysmally low. But at that time a woman who worked at home to make and sell cloth earned about a penny an hour. Women working in Lowell's mills, moreover, could avail themselves of certain educational services offered by their employer, including a circulating library, night classes, Sunday school classes and lectures by such notables as Ralph Waldo Emerson, Horace Mann and Robert Owen. Most of the women worked at the mills for no more than two or three years, long enough to earn a dowry.

Lowell died in 1817, but the Boston Manufacturing Company continued to thrive and grow. In 1822, the surviving associates, incorporated as the Merrimack Manufacturing Company, began construction of a new mill on the falls of the Merrimack River, northwest of Boston. The firm also took over the assets of a

ACTIVITY 12.1, CONTINUED

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local canal company and erected a large dam which powered their own mills and, in time, the machinery of other factories as well. In 1826 the area around the textile mills was incorporated as the town of Lowell, Massachusetts.

Meanwhile, more and more textile factories were opening in New England and the Middle Atlantic states. The cotton goods industry remained the primary industry in the United States until after the Civil War. In 1860 this industry produced goods worth over \$107 million, and it employed almost 15,000 workers. The manufacturing of woolen goods, which involved similar technology, made products worth more than \$60 million, and manufacturers of men's clothing employed almost as many workers as did cotton textiles.

QUESTION FOR DISCUSSION

How do the activities of Francis Cabot Lowell illustrate each of the following characteristics of entrepreneurs?

- A. Identifies an opportunity
- B. Willing to risk financial loss in hopes of making a profit
- C. Secures financial capital
- D. Brings together productive resources to produce a good or service

ACTIVITY 12.2

FIRST-PERSON NARRATIVES OF TWO MILL GIRLS

A Letter from a Lowell Mill Worker¹

Dear Friend, according to my promise I take my pen in hand to Write to you to let you no that i am A Factory girl and iwish you Was one idont no But thaire Will be aplace for you in a fortnighor three Weeks and as Soon as there is iwill let you no and as soon as you Can board with me We will have first rate fun getting up mornings in the Snow Storms. . . . Elsebeth is a lot of handsomefellows here. . . . for pitty Sake dond Show thisletter to any body for the girls are talking So that idon't no What Iwrite.

A Factory Girl Describes Her Background²

It so happens that I was born in New Hampshire, where my mother still resides, with a large family of young children dependent on her for support, and hard does she have to struggle to gain a livelihood for herself and offspring; and but for the charity of several kind friends and neighbors, she would have to put them out before they knew the first rudiments taught in our common schools. Sensible that she had a weight upon her heavy to be borne, to lighten the load, I left home and came to Cabotville. When I came here, I could not read, except by spelling out the words like a child of very few years. I had not commenced learning to write, and all the learning I now have has been gained without instruction, having obtained it alone and that too, after I had labored in the mill twelve hours a day.

QUESTION FOR DISCUSSION

Based on the two first-hand accounts they have provided, why did these women choose to work in the mills?

¹ Lise Vogel, "Hearts to Feel and Tongues to Speak: New England Mill Women in the Early Nineteenth Century," in Milton Cantor and Bruce Laurie (eds.), *Class, Sex, and the Woman Worker* (Greenwood Press, 1977), pp. 65–66.

² Vera Shlackman, *Economic History of a Factory Town*, *Smith College Studies in History*, Vol. XX, Nos. 1–4, Smith College, 1935, p. 59.

